

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
Amendment of Part 73 of the)	
Commission's Rules to Permit)	Docket No.: MM DOCKET NO. 99-325
The Introduction of Digital Audio)	
Broadcasting in the AM)	
And FM Broadcast Services)	

COUNTERPROPOSAL

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February 10, 2004

As an American consumer, as an electrical engineer, and as a licensed Amateur Radio operator, I respectfully submit a counterproposal to our FCC regarding proposed nighttime use of the iBiquity Digital Corporation IBOC – HD Radio broadcasting system on the AM band after sunset. Due to the high levels of adjacent channel IBOC interference that I've received in Toledo from WSAI – 1530 KHz in Cincinnati, Ohio during their nighttime "tests", I believe that it is in the best interest of the future of the U.S. AM broadcasting band NOT to use the IBOC broadcasting scheme after

local sunset. I hereby propose an alternate AM band high definition (“HD-AM/PM”) set of standards for nighttime broadcasting in order to allow the United States AM medium-wave broadcast band to thrive, rather than possibly lose listeners because of adjacent channel IBOC interference. I call for URGENT consideration of this counterproposal before considering the National Association of Broadcasters request to permit IBOC broadcasting at night.

My counterproposal calls for the next 10 years using a hybrid broadcast system of analog/digital AM broadcasting during daytime hours, but a different set of standards for the “HD-AM/PM” nighttime hours.

Despite the lower-quality reduced frequency response of the analog audio component while broadcasting IBOC during daylight hours, AM broadcasters (and the N.A.B.) still seem pressed to implement the IBOC broadcasting scheme - then so be it for daytime; but at nighttime with the AM band’s skywave reception, IBOC currently does not appear to be a very good fit. Based on reception at my location, the current IBOC broadcasting scheme appears to obliterate the analog audio of the first adjacent station of the IBOC station at night. I am basing my observation of the loss of readable audio from KXEL (1540 KHz) when WSAI (1530 KHz) had one-minute on/one-minute off testing of the IBOC carrier at night. Due to the use of 50 KW 1A clears for the Emergency Alert System, AM stations can ill-afford nighttime interference because of adjacent IBOC broadcasts. I suggest viable alternatives.

My counterproposal is to address the issue of improved-quality AM night broadcasting (“HD-AM/PM”) and consists of two broadcasting choices as well as receiver improvements that can be

fairly quickly implemented. These choices emphasize compatibility with existing analog receivers.

“HD-AM/PM” would consist of one of the following:

- 1) “HD-AM/PM” nighttime C-Quam AM broadcasting using the IBOC iBiquity Dexstar Exciter programmed for C-Quam broadcasting. The Dexstar exciter unit would have coding added to provide the stereo C-Quam compatible component for nighttime broadcasting but would then revert to IBOC during the day. At night, in addition to adding the 25Hz pilot tone, nighttime audio frequency response would be restored to the full 10.2KHz, and there would be no IBOC digital information sidebands or IBOC digital quadrature- only the C-Quam instead. I also suggest that provisions be made for using a very low frequency sub-audible pilot sending low speed data to keep the IBOC visual display active with the stations call letters. This method of broadcasting at night would satisfy my EAS nighttime concerns, eliminate the adjacent channel concerns and maintain compatibility with existing receivers. In fact, VISTEON ALREADY HAS MANUFACTURED A RADIO that works in this manner (except for adding the suggested low-speed display data).
- 2) “HD-AM/PM” nighttime AM broadcasting using the C-Quam AM Stereo FCC standard with analog audio out to the 10,200 Hz NRSC limits. On the receiving end what will set this apart from many current radios is that all receivers that wish to display the “HD-AM/PM” label (or logo) must have a noise-blanker or DSP software for AM noise reduction, meet a minimum analog receiver audio bandwidth of 7,500 Hz (while in nighttime mode or 5KHz for IBOC daytime mode), include C-Quam stereo for nighttime.

Tuners/radios without the additional noise reduction features would not be able to label their tuner/receiver as “HD-AM/PM”. Automatic variable AM bandwidth would also be strongly encouraged (even though it may lower the frequency response). EAS works with C-Quam now, plus millions of C-Quam receivers are already in use in U.S.-made vehicles. Several broadcasters use this system now, plus many stations still have their C-Quam hardware in place that need only flip the switch back on.

This counterproposal suggests that the FCC rule that AM stations licensed with 20KW – 50KW of power be required to meet either of the two above listed nighttime “HD-AM/PM” standards, but AM broadcast stations under 20KW may elect to remain in all-analog NRSC-compliant broadcasting 24/7 or may also elect to broadcast using either of the two “HD-AM/PM” methods listed. This plan does not unduly burden broadcasters as over 300 stations already have the C-Quam hardware in place, and it is still early enough in the IBOC rollout to add the nighttime C-Quam software encoding to their existing hardware, plus it does not burden lower-powered stations.

In addition, this counterproposal does not unfairly burden receiver manufacturers as they can simply update DSP programming to accommodate the C-Quam stereo and noise reduction requirements in addition their IBOC coding. As mentioned, Visteon already has a radio that receives AM with both IBOC AND with C-Quam reception, so other manufacturers can surely do the same. In addition, there are already millions of C-Quam radios already in use in American vehicles from Chrysler and Cadillac that will benefit immediately from the C-Quam style “HD-AM/PM” nighttime mode.

This counterproposal also suggests that the FCC mandate that any radio capable of IBOC (daytime) reception MUST also include an automatically selected nighttime AM reception mode using one of the proposed “HD-AM/PM” systems listed. Again, simple DSP coding can accomplish this task.

I urge the Commission to consider a different plan of attack for the AM broadcasting band at night, as during the day I have already lost readable audio reception of WOWO (1190 KHz) while WCHB-AM (1200 KHz) broadcasts in IBOC. With nighttime skywave reception, hundreds of millions of analog AM radios likely will not survive the digital white-noise sidebands of IBOC without losing many AM listeners from the band. Just ask WSM-AM 650KHz in Nashville if all of their listeners are in Tennessee? Without the “HD-AM/PM” option, WSM-AM’s listeners might very well only be in Tennessee if WFAN at 660 KHz was permitted to turn on their IBOC at night?

In summary, I URGENTLY request the Commission mandate “HD-AM/PM” nighttime broadcasting for a 10-year period; after which IBOC should be re-examined for compatibility with the radio receivers at that time and a determination made about adding IBOC-nighttime as a third option of HD-AM/PM. At that time, Kahn Cam-D and DRM could also be options for consideration as well.

As always, thank you for allowing me to voice my opinions and suggestions.

Respectfully submitted,

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